

> d his

(FILE 'HOME' ENTERED AT 08:56:29 ON 08 APR 2004)

FILE 'REGISTRY' ENTERED AT 08:56:34 ON 08 APR 2004

L1 STRUCTURE UPLOADED

L2 0 S L1

L3 2 S L1 FUL

FILE 'CAPLUS' ENTERED AT 08:57:19 ON 08 APR 2004

L4 1 S L3

FILE 'REGISTRY' ENTERED AT 09:06:08 ON 08 APR 2004

L5 STRUCTURE UPLOADED

L6 5 S L5

FILE 'CAPLUS' ENTERED AT 09:07:45 ON 08 APR 2004

L7 5 S L6/P

FILE 'BEILSTEIN' ENTERED AT 09:15:52 ON 08 APR 2004

L8 70 S L5 FUL

FILE 'REGISTRY' ENTERED AT 09:17:30 ON 08 APR 2004

L9 125 S L5 FUL

FILE 'CAPLUS' ENTERED AT 09:18:16 ON 08 APR 2004

L10 70 S L9/P

L11 19 S GRINARD

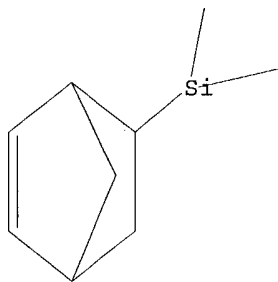
L12 41380 S GRIGNARD

L13 3 S L12 AND L10

=> d 15

L5 HAS NO ANSWERS

L5 STR



Structure attributes must be viewed using STN Express query preparation.

=> d bib abs hitstr 1-3

L13 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:594181 CAPLUS

DN 111:194181

TI Carbonium ion rearrangements controlled by the presence of a silyl group

AU Fleming, Ian; Patel, Shailesh K.; Urch, Christopher J.

CS Univ. Chem. Lab., Cambridge, CB2 1EW, UK

SO Journal of the Chemical Society, Perkin Transactions 1: Organic and

Bio-Organic Chemistry (1972-1999) (1989), (1), 115-24

CODEN: JCPRB4; ISSN: 0300-922X

DT Journal

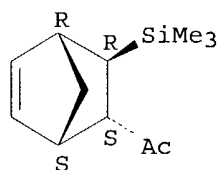
LA English

OS CASREACT 111:194181
 AB γ -Silyl tertiary alcs. e.g., $\text{Me}_3\text{SiCH}_2\text{CH}_2\text{CMe}_2\text{OH}$ rearrange in protic acid $\text{BF}_3 \cdot 2\text{AcOH}$ with 1,2-shift of hydride, Ph, or alkyl groups, and loss of the silyl group to give alkenes e.g., $\text{H}_2\text{C:CHCHMe}_2$. The placing of the silyl group thus controls the carbonium ion rearrangement in a preparatively useful way. Methoxycarbonyl groups do not migrate; instead, cyclopropanes are formed, except when the conformation suitable for cyclopropane formation is unattainable. When the alkene product is 2,2-disubstituted, it can be reprotonated under the reaction conditions and does not therefore always survive. This can be avoided by carrying out the reaction using a Lewis acid on the silyl ether. The starting γ -silyl alcs. are prepared by a variety of versatile methods.

IT **123334-90-7P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and hydrogenation of)

RN 123334-90-7 CAPLUS
 CN Ethanone, 1-[3-(trimethylsilyl)bicyclo[2.2.1]hept-5-en-2-yl]-, (2-endo,3-exo)- (9CI) (CA INDEX NAME)

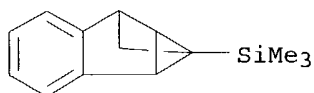
Relative stereochemistry.



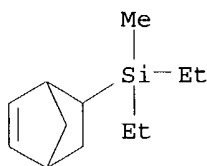
L13 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1984:590844 CAPLUS
 DN 101:190844
 TI Effective control of regioselectivity by a bridgehead substituent in the di- π -methane rearrangement of dibenzobarrelenes and benzonorbornadienes
 AU Paquette, Leo A.; Bay, Elliott
 CS Evans Chem. Lab., Ohio State Univ., Columbus, OH, 43210, USA
 SO Journal of the American Chemical Society (1984), 106(22), 6693-701
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 AB The triplet-state photoisomerizations of 8 bridgehead-monosubstituted benzonorbornadienes are described. Six underwent di- π -methane rearrangement with a highly regioselective or fully regiospecific preference for proximal bond reorganization. In the Br example, a 50:50 distribution of the 2 possible photoisomers was observed. When the substituent group was D, a substantial preference for distal rebonding was encountered ($k_H/k_D = 1.27$). This finding prompted a companion investigation of 2 benzobarrelenes isotopically substituted at 1 of their bridgehead sites. The k_H/k_D values noted for the last 2 substrates are of comparable magnitude and in the same direction. A synopsis of the regiochem. consequences of bridgehead substituent in various doubly channeled di- π -methane substrates reveals the existence of 2 entirely different preferred reaction modes. This is taken as a reflection of the operation of 2 different mechanistic pathways involving product-determinative aryl-vinyl bridging on the 1 hand and direct 1,2-aryl migration on the other.

IT **83399-24-0P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 83399-24-0 CAPLUS
 CN Silane, (6,6a-dihydro-1,6-methanocycloprop[a]inden-1(1aH)-yl)trimethyl- (9CI) (CA INDEX NAME)



L13 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1967:464473 CAPLUS
 DN 67:64473
 TI Catalytic addition of silicon hydrides to 2-chloro(bromo)bicyclo[2.2.1]-5-heptene
 AU Mamedov, M. A.; Akhmedov, I. M.; Guseinov, M. M.
 SO Azerbaidzhanskii Khimicheskii Zhurnal (1966), (5), 93
 CODEN: AZKZAU; ISSN: 0005-2531
 DT Journal
 LA Russian
 GI For diagram(s), see printed CA Issue.
 AB cf. CA 62: 584a; 63: 13305g. I or II treated with Si hydrides in the presence of H_2PtCl_6 leads to higher yields of adducts than in the case of III, studied earlier (loc. cit.). Thus, 25.7 g. I, 32.2 g. EtSiHCl_2 , and 2-3 drops 0.1N H_2PtCl_6 at $140-60^\circ$ gave 50.4 g. IV ($\text{R} = \text{EtSiCl}_2$, $\text{X} = \text{Cl}$), $b_{1.5} 112-14^\circ$, $n_{20D} 1.5044$, $d_{20} 1.2082$. Similarly prepared IV (V-X) from I or II and the corresponding Si hydride are tabulated. Interaction of 24.3 g. V and **Grignard** reagent (from 6 g. Mg and 28 g. EtBr) in Et_2O yielded XI. IX (38.5), 50 g. AcOK, and 30 g. AcOH heated 13 hrs. at $190-210^\circ$ in an autoclave gave XII. Analogously prepared was XIII. XII (12.7 g.), 30 ml. MeOH, and 2 ml. concentrated HCl were stirred vigorously to give after 6 hrs. heating XIV. Similarly obtained was XV. XI (11.5 g.) boiled 70 hrs. with 3.7 g. Li_2CO_3 and 55 ml. H_2O also gave XIV. Freshly distilled $\text{CH}_2:\text{CHCN}$ (2.7 g.) added to 10.55 g. XV at $80-100^\circ$ in the presence of MeONa yielded XVI. [TABLE OMITTED] XII (25 g.) passed through a quartz tube heated at 530° for 2.5 hrs. gave 7.4 g. a mixture of XVII and XVIII, $b_4 80-2^\circ$, $n_{20D} 1.4716$, $d_{20} 0.8916$.
 IT **15184-12-0P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 15184-12-0 CAPLUS
 CN Silane, diethylmethyl(5-norbornen-2-yl)- (8CI) (CA INDEX NAME)



=>

10/ 670, 515

=> d his

(FILE 'HOME' ENTERED AT 08:56:29 ON 08 APR 2004)

FILE 'REGISTRY' ENTERED AT 08:56:34 ON 08 APR 2004

L1 STRUCTURE UPLOADED
L2 0 S L1
L3 2 S L1 FUL

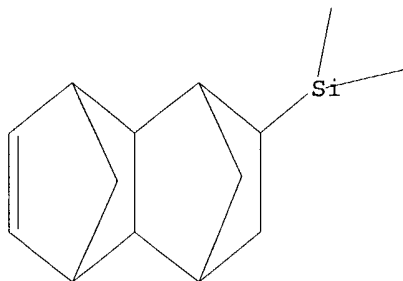
FILE 'CAPLUS' ENTERED AT 08:57:19 ON 08 APR 2004

L4 1 S L3

=> d l1

L1 HAS NO ANSWERS

L1 STR

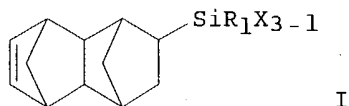


Structure attributes must be viewed using STN Express query preparation.

=> d bib abs hitstr

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:199315 CAPLUS
DN 112:199315
TI Silyl-containing dimethanooctahydronaphthalene derivatives as monomers
IN Shoji, Fusaji; Ehata, Keisuke; Sudo, Ryoichi
PA Hitachi, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01294681	A2	19891128	JP 1988-121746	19880520
	JP 08013823	B4	19960214		
PRAI	JP 1988-121746		19880520		
OS	MARPAT 112:199315				
GI					



AB The title derivs. I (R = C1-5 alkyl; X = halo, C1-5 alkoxy; $1 = 0-3$) are useful for manufacture of polyolefins with high glass transition temperature and good adhesion to metals and inorg. insulators. Thus, 220 g $\text{Me}_3\text{SiCH:CH}_2$ and 160

g cyclopentadiene (II) were heated in an autoclave at 165-175° for 380 min to give 187.7 g 5-exo-, 5-endo-trimethylsilylbicyclo[2.2.1]hept-2-ene, 150 g of which was treated again with 88.3 g II in an autoclave at 175-185° for 12 h to give 98.3 g I (R = Me, l = 3) (III). Then, 35 L/h ethylene and 150 L/h N were passed through a toluene solution containing

8.7

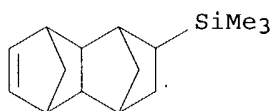
g III, VOCl_3 , and ethylaluminum sesquichloride at 10° for 60 min to give 8.5 g copolymer whose pressed sheet showed good adhesion to a SiN sheet.

IT **126966-34-5P**

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)

RN 126966-34-5 CAPLUS

CN Silane, trimethyl(1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalen-2-yl)- (9CI) (CA INDEX NAME)



IT **126966-35-6P**

RL: PREP (Preparation)
(preparation of, with good adhesion to metals and inorg. insulators)

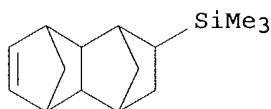
RN 126966-35-6 CAPLUS

CN Silane, trimethyl(1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalen-2-yl)-, polymer with ethene (9CI) (CA INDEX NAME)

CM 1

CRN 126966-34-5

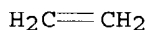
CMF C15 H24 Si



CM 2

CRN 74-85-1

CMF C2 H4



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=> d his

(FILE 'HOME' ENTERED AT 08:56:29 ON 08 APR 2004)

FILE 'REGISTRY' ENTERED AT 08:56:34 ON 08 APR 2004

L1 STRUCTURE UPLOADED

L2 0 S L1

L3 2 S L1 FUL

FILE 'CAPLUS' ENTERED AT 08:57:19 ON 08 APR 2004

L4 1 S L3

FILE 'REGISTRY' ENTERED AT 09:06:08 ON 08 APR 2004

L5 STRUCTURE UPLOADED

L6 5 S L5

FILE 'CAPLUS' ENTERED AT 09:07:45 ON 08 APR 2004

L7 5 S L6/P

FILE 'BEILSTEIN' ENTERED AT 09:15:52 ON 08 APR 2004

L8 70 S L5 FUL

FILE 'REGISTRY' ENTERED AT 09:17:30 ON 08 APR 2004

L9 125 S L5 FUL

FILE 'CAPLUS' ENTERED AT 09:18:16 ON 08 APR 2004

L10 70 S L9/P

L11 19 S GRINARD

L12 41380 S GRIGNARD

L13 3 S L12 AND L10

FILE 'REGISTRY' ENTERED AT 09:21:55 ON 08 APR 2004

L14 STRUCTURE UPLOADED

L15 40 SEARCH L14 SSS SUB=L9 FULL

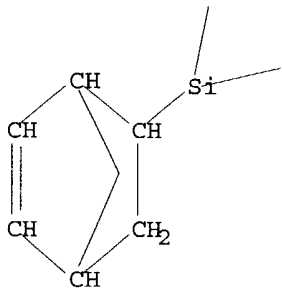
FILE 'CAPLUS' ENTERED AT 09:22:49 ON 08 APR 2004

L16 24 S L15/P

=> d l14

L14 HAS NO ANSWERS

L14 STR



Structure attributes must be viewed using STN Express query preparation.

=> d bib abs hitstr 1-24

L16 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:203439 CAPLUS

TI Low silicon-outgassing resist for bilayer lithography

IN Khojasteh, Mahmoud M.; Kwong, Ranee W.; Chen, Kuang-Jung; Varanasi,

PA USA
SO U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	US 2004048187	A1	20040311	US 2002-241937	20020911
PRAI	US 2002-241937		20020911		

AB The silicon-containing resist comps. which have low silicon outgassing and high resolution lithog. performance, especially in bilayer or multilayer lithog.

applications using 193 nm or shorter wavelength imaging radiation are enabled by the presence of an imaging polymer having silicon-containing, non-acid-labile pendant groups. The resist compns. of the invention are preferably further characterized by the substantial absence of silicon-containing acid-labile moieties.

IT 669067-94-1P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(low silicon-outgassing resist for bilayer lithog.)

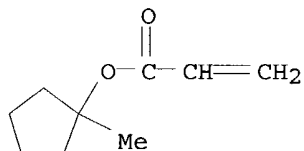
RN 669067-94-1 CAPLUS

CN 2-Propenoic acid, 1-methylcyclopentyl ester, polymer with
bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane and 2,5-furandione (9CI) (CA
INDEX NAME)

CM 1

CRN 178889-49-1

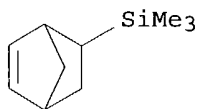
CMF C9 H14 O2



CM 2

CRN 17985-13-6

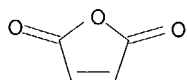
CMF C10 H18 Si



CM 3

CRN 108-31-6

CMF C4 H2 O3

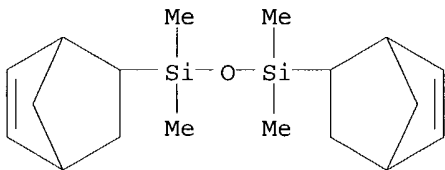


L16 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:875003 CAPLUS
 DN 139:351367
 TI Radical polymerizable compositions containing polycyclic olefins having terminal norbornenyl functional groups
 IN Dershem, Stephen M.; Forrestal, Kevin J.; Liu, Puwei
 PA Henkel Loctite Corporation, USA
 SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No. 779,694.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003208016	A1	20031106	US 2003-353774	20030127
	US 2003008992	A1	20030109	US 2001-779694	20010207
	US 6521731	B2	20030218		
PRAI	US 2001-779694	A2	20010207		

AB The compns. comprise (A) ≥ 1 polycyclic olefins having ≥ 1 terminal norbornenyl functional groups, (B) ≥ 1 free-radical curing monomers, (C) ≥ 1 thermally activated free-radical curing catalysts. The olefins are sufficiently reactive with the propagating free-radicals during cure to provide a highly crosslinked thermoset resin. These functionalized olefin monomers provide addnl. benefits such as increased adhesion to a variety of surfaces and greater control over glass transition temps. Thus, bicyclo[2.2.1]hepta-2,5-diene 120 and 1,1,3,3-tetramethyldisiloxane 27 parts were reacted in the presence of platinum catalyst (Gelest SIP 6831.0) at 70° for 8 h to form product (yield 96%), which was mixed X-BMI (bismaleimide) and 2% dicumyl peroxide, showing adhesion on copper 30 lb, TGA weight loss (at 350°) 3.75%.

IT **120687-11-8P**
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (radical polymerizable compns. containing polycyclic olefins having terminal norbornenyl functional groups)
 RN 120687-11-8 CAPLUS
 CN Disiloxane, 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyl- (9CI) (CA INDEX NAME)

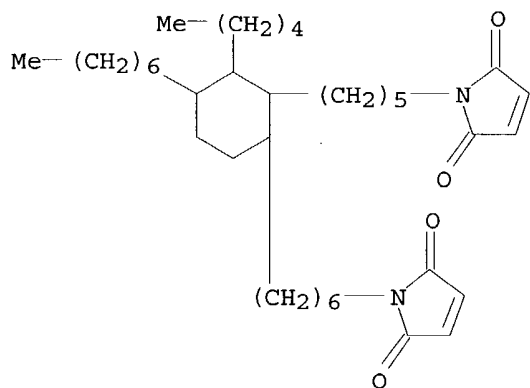


IT **618881-35-9P**
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (radical polymerizable compns. containing polycyclic olefins having terminal norbornenyl functional groups)
 RN 618881-35-9 CAPLUS
 CN 1H-Pyrrole-2,5-dione, 1-[5-[6-[6-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)hexyl]-3-heptyl-2-pentylcyclohexyl]pentyl]-, polymer with 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 618881-34-8

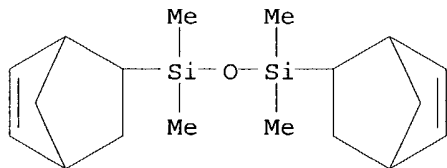
CMF C37 H60 N2 O4



CM 2

CRN 120687-11-8

CMF C18 H30 O Si2



L16 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:717592 CAPLUS

DN 139:237716

TI Decomposition type resin

IN Chuang, Chih-shin; Song, Tsing-tang; Jiaang, Weir-torn

PA Industrial Technology Research Institute, Taiwan

SO U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003170560	A1	20030911	US 2002-287738	20021105
PRAI	TW 2002-91100380	A	20020114		

AB A decomposition type resin has the formula $R'C(=O)OR''OC(=O)R'''$ (R' and R'' are acrylic series polymers or norbornene series polymers; R''' is divalent C1-20 linear or branched alkyl, C 3-20 cyclic alkyl, C 1-6 linear, branched or cyclic alkoxy, silyl, alkylsilyl). The decomposition resin can be used to prepare photoresists. The contrast of the photoresist before and after exposure is increased, and the resolution is enhanced.

IT 592541-87-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

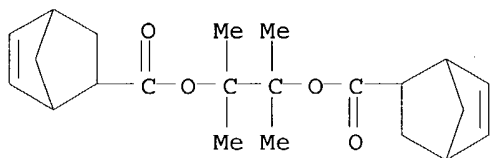
(decomposition type resin for high resolution photoresist)

RN 592541-87-2 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1,2,2-tetramethyl-1,2-ethanediyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 592541-85-0

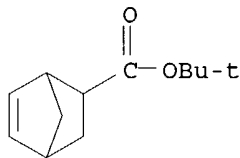
CMF C22 H30 O4



CM 2

CRN 154970-45-3

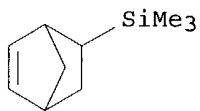
CMF C12 H18 O2



CM 3

CRN 17985-13-6

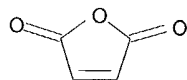
CMF C10 H18 Si



CM 4

CRN 108-31-6

CMF C4 H2 O3



L16 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:808028 CAPLUS
DN 137:317939

TI Silicon-containing copolymers and photosensitive resin composition
therewith useful for photoresists
IN Sung, Ching-tang; Chien, Tseng-hsin; Chiang, Wei-tang; Chuang, Chih-hsin;
Cheng, Han-pin; Chang, Rui-fa; Lin, Tze-chiu
PA Industrial Technology Research Institute, Taiwan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002308945	A2	20021023	JP 2001-375757	20011210
	US 2002177066	A1	20021128	US 2001-858697	20010516
	US 6670093	B2	20031230		
PRAI	TW 2001-90108274	A	20010406		

AB Title copolymers comprise maleic anhydride repeating units, norbornene repeating units, and Si-containing norbornene repeating units and are useful for upper resist layers having good adhesion to lower layers. Thus, maleic anhydride 0.020, 2-tert-butyl-5-norbornene-2-carboxylate 0.012, and 2-trimethylsilyl-5-norbornene 0.008 mol were polymerized at 70° for 10 h in THF containing V 601 polymerization initiator to give a Si-containing polymer (yield

95%) with Mw 2298, Tg 156°, and decomposition temperature 199°, 1.7 g of which was mixed with triphenylsulfonium nonafluorosulfate (sic) photoacid generator 0.051, 1-piperidineethanol killer base 0.0012, and propylene glycol Me ether acetate 11 g to give a photoresist composition

IT 473231-55-9P 473231-58-2P 473231-60-6P
473231-65-1P

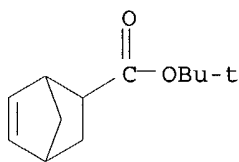
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of silicon-containing copolymers for photoresists)

RN 473231-55-9 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane and 2,5-furandione (9CI) (CA INDEX NAME)

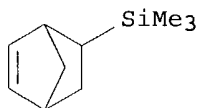
CM 1

CRN 154970-45-3
CMF C12 H18 O2



CM 2

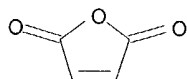
CRN 17985-13-6
CMF C10 H18 Si



CM 3

CRN 108-31-6

CMF C4 H2 O3



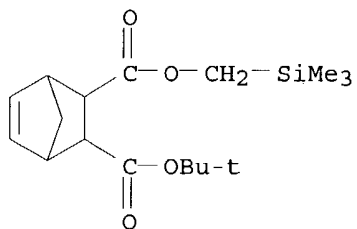
RN 473231-58-2 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, 1,1-dimethylethyl (trimethylsilyl)methyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 473231-57-1

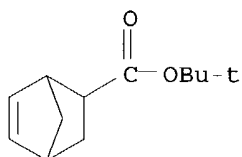
CMF C17 H28 O4 Si



CM 2

CRN 154970-45-3

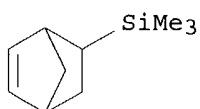
CMF C12 H18 O2



CM 3

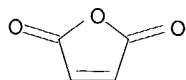
CRN 17985-13-6

CMF C10 H18 Si



CM 4

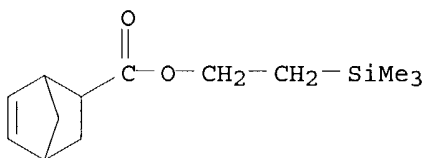
CRN 108-31-6
CMF C4 H2 O3



RN 473231-60-6 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane, 2,5-furandione
and 2-(trimethylsilyl)ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI)
(CA INDEX NAME)

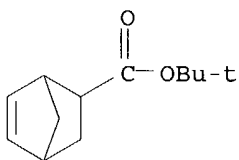
CM 1

CRN 327023-46-1
CMF C13 H22 O2 Si



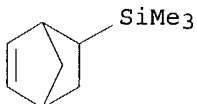
CM 2

CRN 154970-45-3
CMF C12 H18 O2



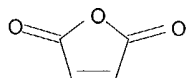
CM 3

CRN 17985-13-6
CMF C10 H18 Si



CM 4

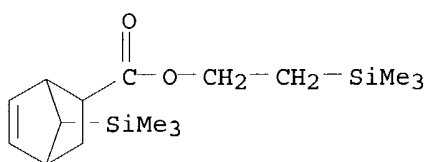
CRN 108-31-6
CMF C4 H2 O3



RN 473231-65-1 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 7-(trimethylsilyl)-, 2-(trimethylsilyl)ethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2,5-furandione (9CI) (CA INDEX NAME)

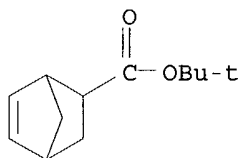
CM 1

CRN 473231-64-0
 CMF C16 H30 O2 Si2



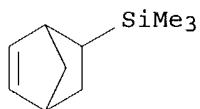
CM 2

CRN 154970-45-3
 CMF C12 H18 O2



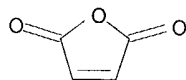
CM 3

CRN 17985-13-6
 CMF C10 H18 Si



CM 4

CRN 108-31-6
 CMF C4 H2 O3



L16 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:615688 CAPLUS

DN 137:170326

TI Radical polymerizable compositions containing high molecular weight polycyclic olefins and applications

IN Dershem, Stephen M.; Forrestal, Kevin J.

PA Loctite, USA

SO PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002062859	A2	20020815	WO 2001-US48791	20011218
	WO 2002062859	A3	20030522		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003008992	A1	20030109	US 2001-779694	20010207
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US 6521731	B2	20030218		
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PRAI US 2001-779694	A	20010207		
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AB The title olefins contain little, if any, cyclopentenyl unsatn. and are sufficiently reactive with the propagating free-radicals during cure to provide a highly crosslinked thermoset resin. The compns. also comprise functionalized polycyclic olefin monomers, maleimide or succinimide, and 0.2-5% cure catalyst. These functionalized olefin monomers provide addnl. benefits such as increased adhesion to a variety of surfaces and greater control over glass transition temps.

IT **446253-78-7P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(for adhesives; high mol. weight polycyclic olefins for thermosetting adhesives for die-attach applications)

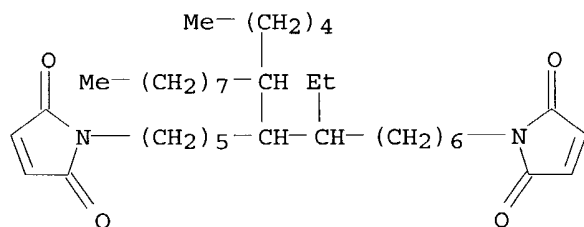
RN 446253-78-7 CAPLUS

CN 1H-Pyrrole-2,5-dione, 1,1'-[7-ethyl-6-(1-pentylnonyl)-1,13-tridecanediyl]bis-, polymer with 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 446253-77-6

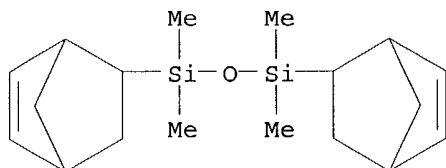
CMF C37 H62 N2 O4



CM 2

CRN 120687-11-8

CMF C18 H30 O Si2



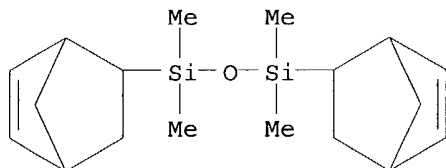
IT 120687-11-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(high mol. weight polycyclic olefins for thermosetting adhesives for die-attach applications)

RN 120687-11-8 CAPLUS

CN Disiloxane, 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyl- (9CI) (CA INDEX NAME)



L16 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:447169 CAPLUS

DN 137:39318

TI Chemically amplified positive-working photoresists for vacuum UV exposure

IN Aogo, Toshiaki; Yasunami, Shoichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 50 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002169287	A2	20020614	JP 2000-363338	20001129
PRAI	JP 2000-363338		20001129		

AB The comps. comprise (A) polymers, which become alkali-soluble by acid decomposition, containing F-substituted structures in a main chain and/or side chains and Si-containing repeating units and (B) photoacid generators. The photoresists are particularly suitable for F2 excimer laser exposure.

IT 437613-55-3P 437770-25-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

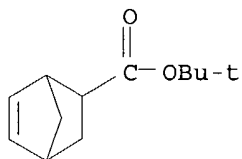
(alkali-developable chemical amplified pos.-working photoresists for excimer laser exposure)

RN 437613-55-3 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane and tetrafluoroethene (9CI) (CA INDEX NAME)

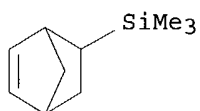
CM 1

CRN 154970-45-3
CMF C12 H18 O2



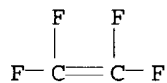
CM 2

CRN 17985-13-6
CMF C10 H18 Si



CM 3

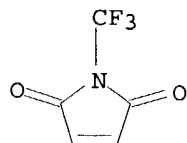
CRN 116-14-3
CMF C2 F4



RN 437770-25-7 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxyl]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yltrimethylsilane and 1-(trifluoromethyl)-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

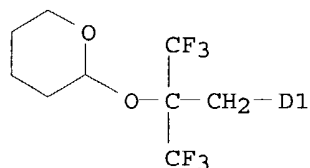
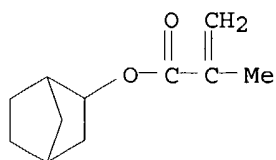
CM 1

CRN 437770-24-6
CMF C5 H2 F3 N O2



CM 2

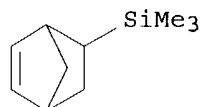
CRN 431062-13-4
CMF C20 H26 F6 O4
CCI IDS



CM 3

CRN 17985-13-6

CMF C10 H18 Si



L16 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:541847 CAPLUS

DN 135:129575

TI Positive photoresist compositions containing norbornene polymers bearing silicon-containing branches

IN Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 42 pp.

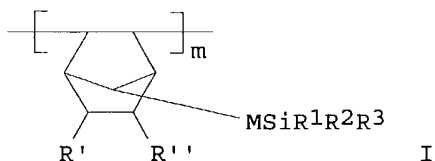
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001201860	A2	20010727	JP 2000-8042	20000117
PRAI	JP 2000-8042		20000117		
GI					



AB The pos. photoresist compns. contain polymers containing repeating units bearing groups forming acid groups by acidolysis and repeating units shown as I (R1-3 = alkyl, haloalkyl, halo, alkoxy, trialkylsilyl, trialkylsilyloxy; M = single bond, divalent linkage; R', R'' = H, trialkylmethylsilyl, trialkylmethylsilylmethyl, Cl2Si, trialkoxysilyl,

dialkoxymethylsilyl, COA; A = OH, OB, NHB; B = alkyl; R' and R'' may be linked together via alkylene, CO₂CO, CONR'''CO and thereby form ring; R' and R'' may be united, form alkylene, CO₂CO, CONR'''CO and thereby form ring; R''' = H, OH, alkyl, OSO₂R''''; R'''' = alkyl, trihalomethyl). The acid group-forming repeating units may be CH₂CY(LCO₂Q) (Y = H, Me, CN, Cl; L = single bond, divalent linkage; Q = H, group forming CO₂H by acidolysis) or CH[C(O)X₂L₂A₂][CH[C(O)X₁L₁A₁]] (X₁, X₂ = O, S, NH, NHSO₂; L₁, L₂ = single bond, divalent linkage; A₁ = Q, CO₂Q; when X₁ = O and L₁ = single bond, A₁ = Q; A₂ = H, CN, OH, CO₂H, CO₂R', COCNHR'', alkyl, cyclic hydrocarbonyl, alkoxy, CO₂Q; R', R'' = alkyl; Q = H, group forming CO₂H by acidolysis). The polymers may contain repeating units derived from maleic anhydride or (N-substituted) maleimides. Preferably, the compns. comprise (A) the above-mentioned polymers, (B) actinic light- or radiation-sensitive acid generators, (C) organic solvents, and optionally (D) organic bases, and (E) surfactants. The compns. have high sensitivity yet high resolution, give rectangular patterns with reduced edge roughness of line patterns, and suppressed pattern shifts on pattern transfer to the lower resist layers in O plasma etching process and are suitable for upper layers for bilayered resists. Their pattern formation using ArF excimer laser was exemplified.

IT 351186-99-7P 351187-07-0P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresist compns. containing norbornene polymers bearing silicon-containing branches)

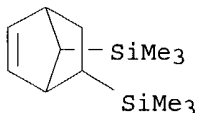
RN 351186-99-7 CAPLUS

CN 2-Butenedioic acid, 2-hydroxyethyl methyl ester, polymer with bicyclo[2.2.1]hept-5-ene-2,7-diylbis[trimethylsilane] and 1,1-dimethylethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 351186-98-6

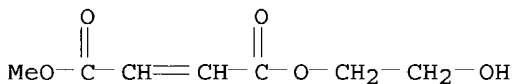
CMF C13 H26 Si2



CM 2

CRN 351186-96-4

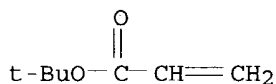
CMF C7 H10 O5



CM 3

CRN 1663-39-4

CMF C7 H12 O2

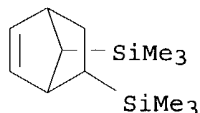


RN 351187-07-0 CAPLUS
 CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
 bicyclo[2.2.1]hept-5-ene-2,7-diylbis[trimethylsilane] and 2,5-furandione
 (9CI) (CA INDEX NAME)

CM 1

CRN 351186-98-6

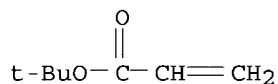
CMF C13 H26 Si2



CM 2

CRN 1663-39-4

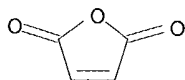
CMF C7 H12 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



L16 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:568932 CAPLUS

DN 133:282162

TI Ring-Opening olefin metathesis polymerization (ROMP) as a potential
 cross-linking mechanism for siloxane polymers

AU Chevalier, Pierre M.; MacKinnon, Iain A.

CS Dow Corning Ltd., South Glamorgan, CF63 2YL, UK

SO Journal of Inorganic and Organometallic Polymers (1999), 9(3), 151-164

CODEN: JIOPE4; ISSN: 1053-0495

PB Kluwer Academic/Plenum Publishers

DT Journal

LA English

AB Reported here are some results of rapid Ring Opening Metathesis Polymerization (ROMP) of norbornene-functional oligomeric siloxanes using a Ru-based catalytic system. The in situ formation of the active metal carbene catalyst by addition of a diazo compound to norbornene-functional siloxane containing the catalytic system, [(p-cymene)RuCl2]2/PCy3 allowed fast but controlled polymerization of the norbornene functionalities. Thus, in a solventless system, polymerization of a norbornene-functional siloxane, e.g., 1,1,1,2,3,3,3-heptamethyl-2-norbornen-5-yltrisiloxane, at 60°C with low catalyst levels (2 to 200 ppm) led to a colorless monolithic gel in less than 30 s. Besides being an efficient crosslinking technol., ROMP of

suitable precursors may also be a source of novel silicone-organic materials.

IT **299184-90-0P**

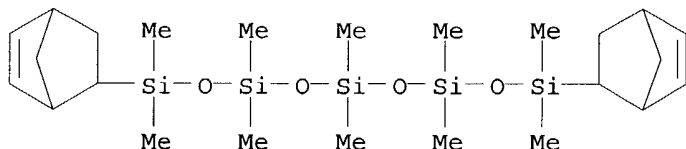
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and characterization and ring-opening metathesis

polymerization of)

RN 299184-90-0 CAPLUS

CN Pentasiloxane, 1,9-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3,5,5,7,7,9,9-decamethyl- (9CI) (CA INDEX NAME)



IT **299184-92-2P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and characterization of)

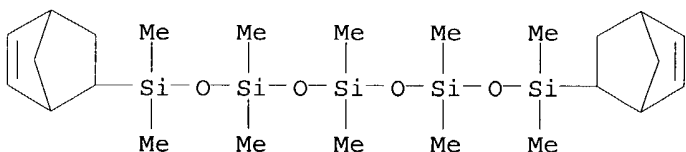
RN 299184-92-2 CAPLUS

CN Pentasiloxane, 1,9-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3,5,5,7,7,9,9-decamethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 299184-90-0

CMF C24 H48 O4 Si5



RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:6633 CAPLUS

DN 130:168415

TI Cometathesis of 5-trimethylsilyl-2-norbornene with 1-hexene

AU Kelbakiany, L.; Portnykh, E.; Samsoniya, Sh.; Finkelshtein, E.

CS Georgia

SO Bulletin of the Georgian Academy of Sciences (1998), 157(2), 232-234

CODEN: BGASFC; ISSN: 1560-0262

PB Georgian Academy of Sciences

DT Journal

LA English

OS CASREACT 130:168415

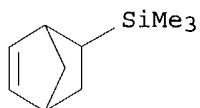
AB This study used a metathesis reaction for the synthesis of cyclopentanoids containing organosilicon substituents. The reaction between 5-(trimethylsilyl)-2-norbornene and 1-hexene (in the presence of Re2O7/Al2O3-SnBu4) produced 1-trimethylsilyl-2,4-divinylcyclopentane, 4-(1-hexenyl)-1-trimethylsilyl-2-vinylcyclopentane, and 2,4-bis(1-hexenyl)-1-(trimethylsilyl)cyclopentane, which were analyzed by mass spectrometry. The formation of the unsym. diene was preferable. The cometathesis of norbornene with 1,4-bis(trimethylsilyl)-2-butene produced only one product.

IT **17985-13-6P**, 5-Trimethylsilyl-2-norbornene

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and metathesis with 1-hexene)

RN 17985-13-6 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl- (9CI) (CA INDEX NAME)



RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:575192 CAPLUS

DN 125:248693

TI Effects of cis-trans-configurations of the main chains of
poly(trimethylsilylnorbornene) on its transport and sorption properties as
well as free volume

AU Yampolskii, Yu. P.; Finkelshtein, E. Sh.; Makovetskii, K. L.; Bondar, V.
I.; Shantarovich, V. P.

CS A. V. Topchiev Inst. Petrochemical Synthesis, Russian Acad. Sci., Moscow,
Russia

SO Journal of Applied Polymer Science (1996), 62(2), 349-357

CODEN: JAPNAB; ISSN: 0021-8995

PB Wiley

DT Journal

LA English

AB Poly(trimethylsilylnorbornenes) having different content of cis
configurations of double bonds in the main chains were prepared by ring
opening metathesis polymerization in the presence of the catalysts
characterized

by different stereo-selectivity (Re2O7, RuCl3, WCl6). The polymer
obtained in the presence of the WCl6 catalysts having the closest content
of the cis- and trans-configurations is distinguished by largest gas
permeability, diffusion, and solubility coeffs. Determination of the
parameters of gas

sorption isotherms and estimation of free volume using group contribution and
positron annihilation methods allowed to conclude that microstructure of
this polymer (cis/trans ratio) affects its free volume and, therefore, its
transport and thermodyn. properties.

IT 131853-82-2P, 5-Trimethylsilylnorbornene homopolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(cis-trans-configuration effect of main chains on transport, sorption
properties as well as free volume of poly(trimethylsilylnorbornene))

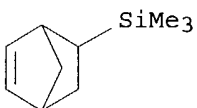
RN 131853-82-2 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, homopolymer (9CI) (CA
INDEX NAME)

CM 1

CRN 17985-13-6

CMF C10 H18 Si

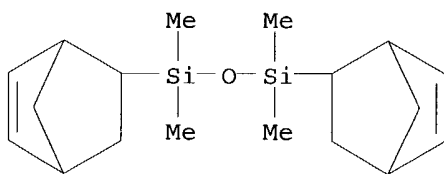


L16. ANSWER 11 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:522705 CAPLUS
 DN 123:57586
 TI Preparation of organopolysiloxane resins by hydrolytic condensation of silanes
 IN Mautner, Konrad; Weidner, Richard; Oswaldbauer, Helmut
 PA Wacker-Chemie G.m.b.H., USA
 SO U.S., 8 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5359022	A	19941025	US 1993-148102	19931103
PRAI	US 1992-947581		19920921		

AB The easy process comprises (A) reacting ≥ 1 silane of the formula $\text{RaSi}(\text{OR})_4 - a$, in which $a = 0-3$, R = a monovalent organic radical, and/or a partial hydrolyzate thereof, with ≥ 1 silane having $a = 0$ or 1, and/or being a partial hydrolyzate thereof, and optionally, an organo(poly) siloxane with water in the presence of acid and, optionally, other substances, (B) reacting the reaction mixture in the presence of base, and (C) adding with stirring, the reaction mixture obtained in (B) into water, and optionally mixed with additives. Refluxing a mixture containing water 200, 10% HCl 4, $(\text{EtO})_4\text{Si}$ (TES 40, containing 40% SiO_2) 900, hexamethyldisiloxane 400 g for 2 h at 78° while distilling off 470 g EtOH over 1 h, adding 300 mL THF and 2.5 g 40% MeNH_2 solution, refluxing 3 h at 65° , and adding the resulting mixture to 5 L water with vigorous stirring gave 720 g white infusible resin powder with average particle diameter 20.0 μm , bulk d. 0.35 kg/L, and viscosity (50% PhMe solution) 5 cSt.

IT **120687-11-8DP**, reaction products with siloxanes
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (preparation of organopolysiloxane resins by hydrolytic condensation of silanes)
 RN 120687-11-8 CAPLUS
 CN Disiloxane, 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyl- (9CI) (CA INDEX NAME)



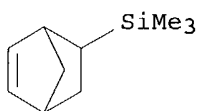
L16 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:299457 CAPLUS
 DN 120:299457
 TI Calorimetric study of 5-trimethylsilyl-2-norbornene, of its polymerization process and of poly(5-trimethylsilyl-2-norbornene) from 5 to 600 K at standard pressure
 AU Lebedev, Boris; Smirnova, Natal'ya; Novosyolova, Nina; Makovetskii, Kiryll; Ostrovskaya, Irina
 CS Chem. Inst., N. I. Lobachevsky State Univ., Nizhny Novgorod, Russia
 SO Macromolecular Chemistry and Physics (1994), 195(5), 1807-22
 CODEN: MCHPES; ISSN: 1022-1352
 DT Journal
 LA English
 AB The thermodyn. properties of 5-trimethylsilyl-2-norbornene (I) and poly-I, viz. the temperature dependence of the isobaric heat capacity (C_p°) of I

at 10-330 K and of poly-I at 7-600 K, were studied by adiabatic vacuum and differential dynamic calorimetry. The temperature and enthalpy of I melting as well as parameters of the glass transition and glassy state of I and poly-I were determined. In a differential automatic calorimeter, the enthalpy of polymerization of I in PhMe solution was measured at 301 K and 101.325 kPa. Under similar phys. conditions and in the same calorimeter, enthalpies of dissoln. for I and poly-I were estimated. The results were used to calculate the enthalpy, entropy and Gibbs function of bulk polymerization of I at 0-380 K at standard pressure. The ceiling temperature of the polymerization process was also evaluated.

IT **131853-82-2P**, 5-(Trimethylsilyl)-2-norbornene polymer
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and thermodyn. properties of)
RN 131853-82-2 CAPLUS
CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

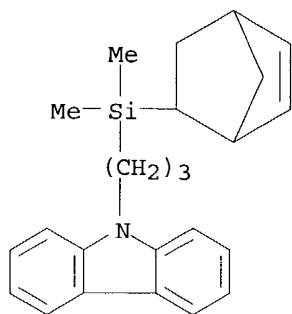
CRN 17985-13-6
CMF C10 H18 Si



L16 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:192505 CAPLUS
DN 120:192505
TI Synthesis of polymers containing carbazoyl groups via ring-opening metathesis polymerization (ROMP) of a carbazoyl-substituted norbornene derivative
AU Finkelshtein, Eugene Sh.; Portnykh, Elena B.; Ushakov, Nikolai V.; Greengolts, Maria L.; Fedorova, Galina K.; Plate, Nikolai A.
CS A. V. Topchiev Inst. Petrochem. Synth., Moscow, 117912, Russia
SO Macromolecular Rapid Communications (1994), 15(2), 155-9
CODEN: MRCOE3; ISSN: 1022-1336
DT Journal
LA English
AB (Chlorodimethyl)silylnorbornene is condensed with 9-(3-chloropropyl)carbazole, 1,2-dibromoethane, and Mg. The resulting carbazole-functionalized norbornene is subjected to ring-opening metathesis polymerization optionally with norbornene.
IT **153759-40-1P 153759-41-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
RN 153759-40-1 CAPLUS
CN 9H-Carbazole, 9-[3-(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl]propyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

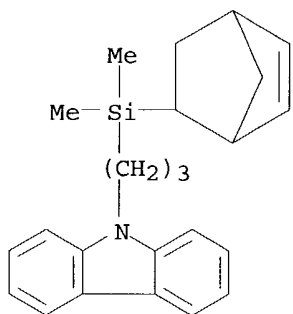
CRN 153759-39-8
CMF C24 H29 N Si



RN 153759-41-2 CAPLUS
 CN 9H-Carbazole, 9-[3-(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl]propyl]-, polymer with bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

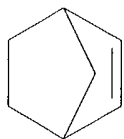
CM 1

CRN 153759-39-8
 CMF C24 H29 N Si



CM 2

CRN 498-66-8
 CMF C7 H10

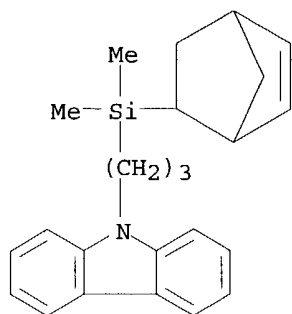


IT 153759-39-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and ring-opening metathesis polymerization of)

RN 153759-39-8 CAPLUS

CN 9H-Carbazole, 9-[3-(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl]propyl]- (9CI) (CA INDEX NAME)



L16 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:605548 CAPLUS
 DN 119:205548
 TI Preparation and use of siloxanes bearing norbornenyl groups
 IN Herzig, Christian
 PA Wacker-Chemie G.m.b.H., Germany
 SO Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4128932	A1	19930304	DE 1991-4128932	19910830
PRAI	DE 1991-4128932		19910830		

AB The uncured siloxanes R1aR2bSiO₂-0.5(a + b) [R1 = 5-norborn-2-enyl group, R2 = hydrocarbyl; a = 0 or 1 (average 0.01-1); b = 1-3 (average 0.8-2.5)], useful

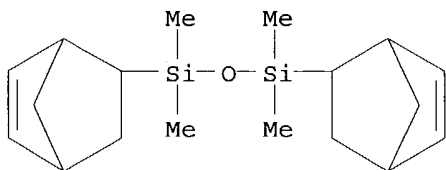
in antiblocking coatings, are prepared The Pt-catalyzed reaction of 238 g HSi group-terminated di-Me siloxane (viscosity 7.2 mm²/s at 25°) with 46 g norbornadiene at 100-135° gave 275 g siloxane (I number 45) which was heated (50 g) with 450 g OH group-terminated di-Me siloxane (viscosity 20 Pa-s) and PhCH₂NMe₃⁺ OH⁻ at 100° for 5 h to give 352 g oil with viscosity 430 mm²/s and I number 4.2. A mixture of this oil 44, 3-mercaptopropyl Me siloxane 6, and Darocure-1173 1 g was coated (5 μm) on satinized parchment paper and cured in 1.5 s by an 80-W/cm Hg lamp at a distance of 10 cm.

IT 120687-11-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

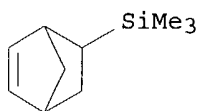
RN 120687-11-8 CAPLUS

CN Disiloxane, 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyl-
 (9CI) (CA INDEX NAME)

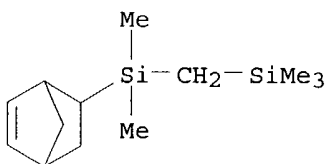


L16 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:125196 CAPLUS
 DN 118:125196
 TI Ring-opening metathesis polymerization of substituted norbornenes
 AU Makovetskii, K. L.; Finkel'shtein, E. Sh.; Ostrovskaya, I. Ya.; Portnykh, E. B.; Gorbacheva, L. I.; Goldberg, A. I.; Ushakov, N. V.; Yampolskii, Y.

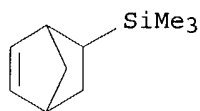
P.
 CS Inst. Petrochem. Synth., Moscow, 117912, Russia
 SO Journal of Molecular Catalysis (1992), 76(1-3), 107-21
 CODEN: JMCADS; ISSN: 0304-5102
 DT Journal
 LA English
 AB Ring-opening metathesis polymerization of a series of substituted norbornenes
 was carried out. Special attention was paid to the polymerization of monomers
 bearing Si-containing groups. Various heterogeneous and homogeneous W-, Re-,
 and Ru-based systems were used as catalysts. It was possible to obtain
 polymers of some norbornenes having reactive Si-Cl and Si-OR bonds as well
 as groups capable of polymerizing via different mechanisms. The latter
 remained unchanged during the ring-opening of the norbornenes and could be
 used for the further modification of these polymers. Some data on the
 polymerization of various cycloolefin pairs was presented. Gas permeabilities
 of the polymers were presented and discussed.
 IT **131853-82-2P 132955-53-4P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and mol. weight and gas permeability of)
 RN 131853-82-2 CAPLUS
 CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, homopolymer (9CI) (CA
 INDEX NAME)
 CM 1
 CRN 17985-13-6
 CMF C10 H18 Si



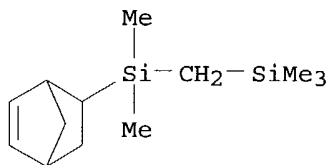
RN 132955-53-4 CAPLUS
 CN Silane, [(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl)methyl]trimethyl-,
 homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 132955-52-3
 CMF C13 H26 Si2



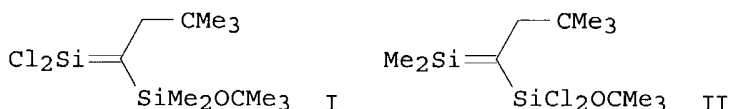
IT **17985-13-6P 132955-52-3P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and ring-opening metathesis polymerization of)
 RN 17985-13-6 CAPLUS
 CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl- (9CI) (CA INDEX NAME)



RN 132955-52-3 CAPLUS
 CN Silane, [(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl)methyl]trimethyl-
 (9CI) (CA INDEX NAME)



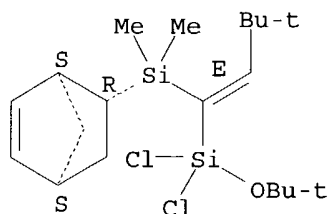
L16 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:102040 CAPLUS
 DN 118:102040
 TI Silaheterocycles. 21. Silene to silene rearrangement: intramolecular
 [1,3]-migration of alkoxy groups
 AU Ziche, Wolfgang; Auner, Norbert; Behm, Joachim
 CS Anorg-Chemisches Inst., Tech. Univ. Muenchen, Garching, D-8046, Germany
 SO Organometallics (1992), 11(11), 3805-13
 CODEN: ORGND7; ISSN: 0276-7333
 DT Journal
 LA English
 OS CASREACT 118:102040
 GI



AB By addition of Me₃CLi to Me₃COSiMe₂C(SiCl₃):CH₂ and subsequent LiCl elimination, the intermediate 2-(tert-butoxydimethylsilyl)-1,1-dichloro-2-neopentylsilene (I) is formed. Fast intramol. [1,3]-migration of the tert-butoxy group yields the unexpected 2-(tert-butoxydichlorosilyl)-1,1-dimethyl-2-neopentylsilene (II), which is trapped by Me₃SiOMe, dienes, and quadricyclane. Blocking the target position of the migration by bulky tert-butoxy groups in the silenes Cl₂-n(tert-BuO)_nSi:C(SiMe₂OBu-tert)CH₂CMe₃ (n = 1, 2) cannot prevent the rearrangement from taking place. X-ray diffraction of the quadricyclane cycloadduct from 2-(di-tert-butoxychlorosilyl)-1,1-dimethyl-2-neopentylsilene and NMR spectroscopic studies support these findings. A model explaining the reactivity of the C-alkoxysilyl-substituted silenes is proposed.

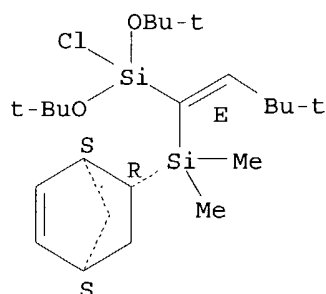
IT **144467-31-2P 144467-34-5P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 144467-31-2 CAPLUS
 CN Silane, bicyclo[2.2.1]hept-5-en-2-yl[1-[dichloro(1,1-dimethylethoxy)silyl]-3,3-dimethyl-1-butenyl]dimethyl-, [1 α ,2 α (E),4 α]- (9CI)
 (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 144467-34-5 CAPLUS
CN Silane, bicyclo[2.2.1]hept-5-en-2-yl[1-[chlorobis(1,1-dimethylethoxy)silyl]-3,3-dimethyl-1-butenyl]dimethyl-, [1 α ,2 α (E),4 α]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



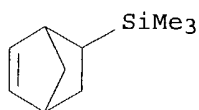
L16 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:165009 CAPLUS
DN 114:165009
TI Ring-opening metathesis polymerization of norbornenes with organosilicon substituents. Gas permeability of polymers obtained
AU Finkel'shtein, E. Sh.; Makovetskii, K. L.; Yampol'skii, Yu. P.; Ostrovskaya, I. Ya.; Portnykh, E. B.; Kalyuzhnyi, N. E.; Pritula, N. A.; Gol'berg, A. I.; Yatsenko, M. S.; Plate, N. A.
CS Inst. Petrochem. Synth., Moscow, 117912, USSR
SO Makromolekulare Chemie (1991), 192(1), 1-9
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
AB Polymers of norbornenes with SiMe₃ and SiMe₂CH₂SiMe₃ groups were synthesized, and mass transfer properties of the polymers were studied. Ring-opening polymers of these monomers were realized in the presence of homogeneous WCl₆-based and heterogeneous Re₂O₇-based metathesis catalysts. Introduction of Si-containing groups in the polynorbornene main chain resulted in a drastic increase of the permeability and diffusion coeffs. for different biat. and multiat. gases. Comparison of polymers having SiMe₃ and SiMe₂CH₂SiMe₃ substituents showed lower permeability and diffusion coeffs. in the latter case. The combination of transport properties (Pi values) and separation factors a_{ij} = Pi/Pj of the 2 new Si-containing polynorbornenes permitted their consideration as representatives of the most permeable and sufficiently permselective group of polymers. Transport properties of the polymers studied were analyzed on the basis of the free-volume approach.
IT 131853-82-2P 132955-53-4P
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and gas permselectivity properties of)
RN 131853-82-2 CAPLUS
CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 17985-13-6

CMF C10 H18 Si

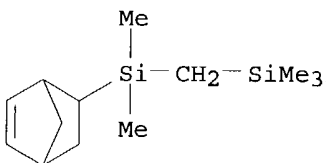


RN 132955-53-4 CAPLUS
CN Silane, [(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl)methyl]trimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 132955-52-3

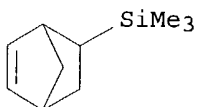
CMF C13 H26 Si2



IT 17985-13-6P 132955-52-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)

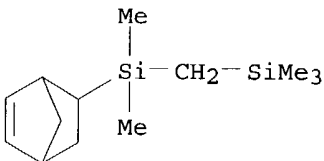
RN 17985-13-6 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl- (9CI) (CA INDEX NAME)



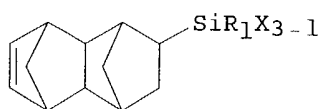
RN 132955-52-3 CAPLUS

CN Silane, [(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl)methyl]trimethyl- (9CI) (CA INDEX NAME)



AN 1990:199315 CAPLUS
 DN 112:199315
 TI Silyl-containing dimethanooctahydronaphthalene derivatives as monomers
 IN Shoji, Fusaji; Ehata, Keisuke; Sudo, Ryoichi
 PA Hitachi, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01294681	A2	19891128	JP 1988-121746	19880520
	JP 08013823	B4	19960214		
PRAI	JP 1988-121746		19880520		
OS	MARPAT 112:199315				
GI					

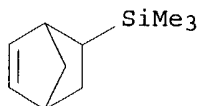


AB The title derivs. I (R = C1-5 alkyl; X = halo, C1-5 alkoxy; l = 0-3) are useful for manufacture of polyolefins with high glass transition temperature and good adhesion to metals and inorg. insulators. Thus, 220 g Me3SiCH:CH2 and 160 g cyclopentadiene (II) were heated in an autoclave at 165-175° for 380 min to give 187.7 g 5-exo-, 5-endo-trimethylsilylbicyclo[2.2.1]hept-2-ene, 150 g of which was treated again with 88.3 g II in an autoclave at 175-185° for 12 h to give 98.3 g I (R = Me, l = 3) (III). Then, 35 L/h ethylene and 150 L/h N were passed through a toluene solution containing 8.7 g III, VOCl3, and ethylaluminum sesquichloride at 10° for 60 min to give 8.5 g copolymer whose pressed sheet showed good adhesion to a SiN sheet.

IT **17985-13-6P**
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (preparation and Diels-Alder reaction of, with cyclopentadiene)

RN 17985-13-6 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl- (9CI) (CA INDEX NAME)



L16 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:198474 CAPLUS

DN 112:198474

TI Vinylacetoximinosilanes in Diels-Alder reaction with cyclopentadiene

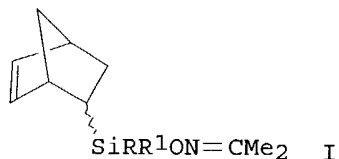
AU Abramov, A. V.; Fedvtov, N. S.; Sheludyakov, V. D.; Kirilin, A. D.; Bochkarev, V. N.; Bernadskii, A. A.; Nikishina, I. S.; Polyakova, M. V.; Besfamil'naya, E. N.

CS Gos. NII Khim. Tekhnol. Elementoorg. Soedin, Moscow, USSR

SO Zhurnal Obshchei Khimii (1989), 59(2), 371-7
 CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal

LA Russian
OS CASREACT 112:198474
GI



AB The title reaction of $\text{CH}_2:\text{CHSiRR}^1\text{ON}:\text{CMe}_3$ ($\text{R} = \text{R}^1 = \text{Me}$, $\text{ON}:\text{CMe}_2$; $\text{R} = \text{Me}$, NCO , $\text{R}^1 = \text{ON}:\text{CMe}_2$) gave 11-37% of an .apprx. 1:1 mixture of the endo- and exo-adducts I.

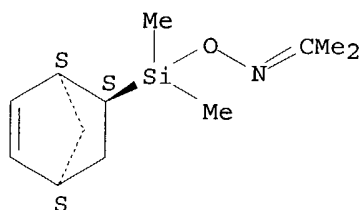
IT 126669-80-5P 126669-84-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 126669-80-5 CAPLUS

CN 2-Propanone, O-(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl)oxime, endo-
(9CI) (CA INDEX NAME)

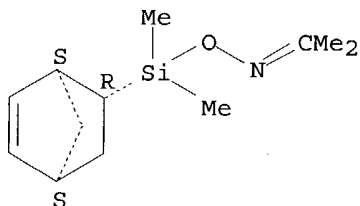
Relative stereochemistry.



RN 126669-84-9 CAPLUS

CN 2-Propanone, O-(bicyclo[2.2.1]hept-5-en-2-yl)dimethylsilyl)oxime, exo-
(9CI) (CA INDEX NAME)

Relative stereochemistry.



L16 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:77323 CAPLUS

DN 112:77323

TI Silicon-induced norbornyl-norpinyl rearrangement

AU Kirmse, Wolfgang; Soellenboehmer, Frank

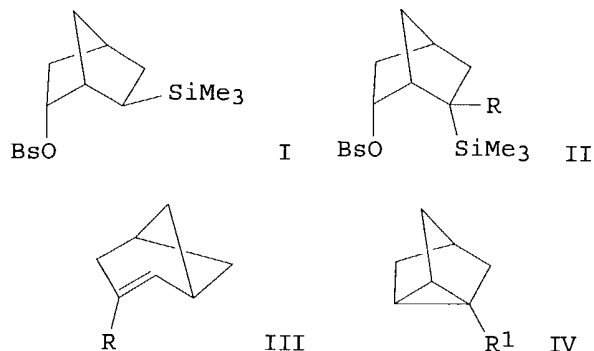
CS Fak. Chem., Univ. Bochum, Bochum, D-4630/1, Fed. Rep. Ger.

SO Angewandte Chemie (1989), 101(12), 1728-30

CODEN: ANCEAD; ISSN: 0044-8249

DT Journal

LA German
 OS CASREACT 112:77323
 GI



AB Solvolysis of norbornyl brosylates I (Bs = 4-BrC₆H₄SO₂) and II (R = H, SiMe₃) in trifluoroethanol at 75° was studied. Silicon-induced rearrangement occurred in II, giving approx. 80% norpinenes III (same R). I gave a nearly equal mixture of tricyclic compds. IV (R₁ = H, SiMe₃) via a carbocationic intermediate.

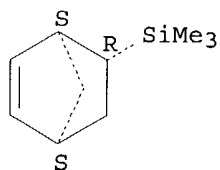
IT **27544-81-6P 27544-84-9P**

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and hydration of)

RN 27544-81-6 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, exo- (9CI) (CA INDEX NAME)

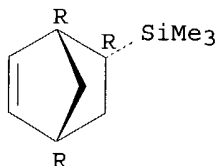
Relative stereochemistry.



RN 27544-84-9 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, endo- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L16 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:632949 CAPLUS

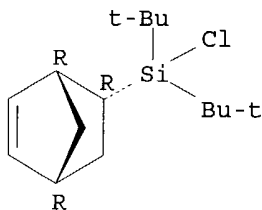
DN 111:232949

TI Silaheterocycles. IV. Formation and [2+4]-cycloaddition reactions of

dichloroneopentylsilaethene

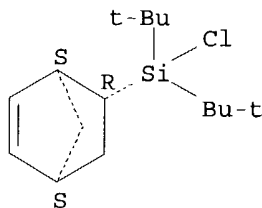
- AU Auner, N.
CS Anorg.-Chem. Inst., Westfael. Wilhelms-Univ., Muenster, D 4400, Fed. Rep. Ger.
SO Journal of Organometallic Chemistry (1988), 353(3), 275-96
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA German
OS CASREACT 111:232949
AB The reaction of equimolar amts. of $\text{H}_2\text{C}=\text{CHSiCl}_3$ (I) with Me_3CLi leads to the dichloroneopentylsilaethene $\text{Cl}_2\text{Si}=\text{CHCH}_2\text{CMe}_3$ (II) which with cyclopentadiene, pentamethylcyclopentadiene, anthracene and 9,10-dimethylantracene gives high yields of the [2 + 4]-cycloadducts at temperature higher than -20° . The cyclodimerization of II and its butylated derivs., which comprises the major reaction in the absence of suitable partners, is almost completely suppressed and is only observed, if the diene is added at temperature higher than 0° . The dienophilic character of the Si:C double bond of II is stronger than that of the vinyl group of I as was shown from the competitive reaction with the above-mentioned dienes. The cycloaddn. products were characterized by the usual spectroscopic methods (NMR, mass spectra) and when the results of these were combined with GC-measurements the exo/endo isomer ratios of the silyl- and silanorbornene derivs. could be determined
IT **123497-23-4P 123519-11-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 123497-23-4 CAPLUS
CN Silane, bicyclo[2.2.1]hept-5-en-2-ylchlorobis(1,1-dimethylethyl)-, endo-(9CI) (CA INDEX NAME)

Relative stereochemistry.



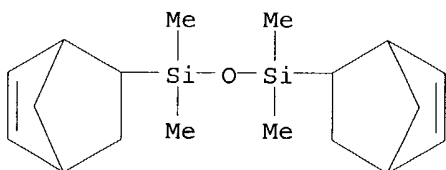
- RN 123519-11-9 CAPLUS
CN Silane, bicyclo[2.2.1]hept-5-en-2-ylchlorobis(1,1-dimethylethyl)-, exo-(9CI) (CA INDEX NAME)

Relative stereochemistry.



- L16 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:497768 CAPLUS
DN 111:97768
TI Di- and tetrafunctional initiators for the living ring-opening olefin metathesis polymerization of strained cyclic olefins

AU Risse, Wilhelm; Wheeler, David R.; Cannizzo, Louis F.; Grubbs, Robert H.
 CS Arnold and Mabel Beckman Lab. Chem. Synth., California Inst. Technol.,
 Pasadena, CA, 91125, USA
 SO Macromolecules (1989), 22(8), 3205-10
 CODEN: MAMOBX; ISSN: 0024-9297
 DT Journal
 LA English
 AB Low-temperature photochem. reaction of a titanacyclobutane derivative with
 compds.
 containing 2 and 4 norbornene rings gave bis- and tetrakis(titanacyclobutanes)
 which were applied as di- and tetrafunctional initiators, resp., for the
 living ring-opening metathetical polymerization of norbornene. The rate of
 polymerization was independent of the monomer concentration and was .apprx.2
 and
 .apprx.4 times the rate of polymerization initiated by a monometallacycle
 compound
 The resulting living polymers were end-capped by Wittig reactions with
 ketones. Polymers with number-average mol. weight 5540-10,700 and
 polydispersity
 1.15-1.49 were prepared
 IT **120687-11-8P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and reaction of, with titanacyclobutane derivative)
 RN 120687-11-8 CAPLUS
 CN Disiloxane, 1,3-bis(bicyclo[2.2.1]hept-5-en-2-yl)-1,1,3,3-tetramethyl-
 (9CI) (CA INDEX NAME)



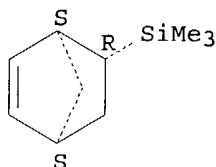
L16 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1971:125777 CAPLUS
 DN 74:125777
 TI Diels--Alder reaction of α,β -unsaturated trihalosilanes with
 cyclopentadiene
 AU Cunico, Robert F.
 CS Dep. Chem., North. Illinois Univ., DeKalb, IL, USA
 SO Journal of Organic Chemistry (1971), 36(7), 929-32
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA English
 OS CASREACT 74:125777
 AB The Diels-Alder reaction of cyclopentadiene with some ethylenic and
 acetylenic α,β -unsatd. silanes was investigated to determine the
 synthetic potential of such compds. as dienophiles. Although
 trimethylsilyl species displayed low reactivity in these reactions, the
 corresponding trichloro- and trifluorosilyl analogs were quite reactive.
 Trifluorosilyl compds. induced polymerization of cyclopentadiene, and in the
 case
 of ethynyl-trifluorosilane, this polym. precluded the formation of
 cycloaddn. product. The geometrical isomers of β -
 chlorovinyltrichlorosilane were characterized for the first time, and the
 lowest member of a new class of compds., alkynyltrifluorosilanes, was
 prepared
 IT **27544-81-6P 27544-84-9P**
 RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 27544-81-6 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, exo- (9CI) (CA INDEX NAME)

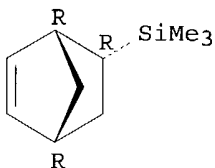
Relative stereochemistry.



RN 27544-84-9 CAPLUS

CN Silane, bicyclo[2.2.1]hept-5-en-2-yltrimethyl-, endo- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L16 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1967:464473 CAPLUS

DN 67:64473

TI Catalytic addition of silicon hydrides to 2-chloro(bromo)bicyclo[2.2.1]-5-heptene

AU Mamedov, M. A.; Akhmedov, I. M.; Guseinov, M. M.

SO Azerbaidzhanskii Khimicheskii Zhurnal (1966), (5), 93

CODEN: AZKZAU; ISSN: 0005-2531

DT Journal

LA Russian

GI For diagram(s), see printed CA Issue.

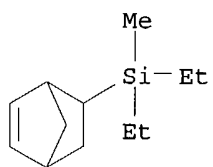
AB cf. CA 62: 584a; 63: 13305g. I or II treated with Si hydrides in the presence of H₂PtCl₆ leads to higher yields of adducts than in the case of III, studied earlier (loc. cit.). Thus, 25.7 g. I, 32.2 g. EtSiHCl₂, and 2-3 drops 0.1N H₂PtCl₆ at 140-60° gave 50.4 g. IV (R = EtSiCl₂, X = Cl), b_{1.5} 112-14°, n_{20D} 1.5044, d₂₀ 1.2082. Similarly prepared IV (V-X) from I or II and the corresponding Si hydride are tabulated. Interaction of 24.3 g. V and Grignard reagent (from 6 g. Mg and 28 g. EtBr) in Et₂O yielded XI. IX (38.5), 50 g. AcOK, and 30 g. AcOH heated 13 hrs. at 190-210° in an autoclave gave XII. Analogously prepared was XIII. XII (12.7 g.), 30 ml. MeOH, and 2 ml. concentrated HCl were stirred vigorously to give after 6 hrs. heating XIV. Similarly obtained was XV. XI (11.5 g.) boiled 70 hrs. with 3.7 g. Li₂CO₃ and 55 ml. H₂O also gave XIV. Freshly distilled CH₂:CHCN (2.7 g.) added to 10.55 g. XV at 80-100° in the presence of MeONa yielded XVI. [TABLE OMITTED] XII (25 g.) passed through a quartz tube heated at 530° for 2.5 hrs. gave 7.4 g. a mixture of XVII and XVIII, b₄ 80-2°, n_{20D} 1.4716, d₂₀ 0.8916.

IT 15184-12-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 15184-12-0 CAPLUS

CN Silane, diethylmethyl(5-norbornen-2-yl)- (8CI) (CA INDEX NAME)



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